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s must be turned on the joint by which it is fastened to the plummer-block in a direction parallel to the side of the rack, as shown at r in fig. 1.

The arm forms an inclined plane as shown at r , fig. 3, so that when the end of the box $B B$ approaches towards the center of the frame, the friction-roller t (one of which is fixed to each end of the box), passes up the arm or inclined plane r , and raises the end of the box, so that the roller C may be removed.

N° III.

CENTRIFUGAL CHECK-HOOKS.

The SILVER VULCAN MEDAL was this Session given to ED. SPEER, Esq. of New Inn, for his CENTRIFUGAL CHECK-HOOKS, a Model of which have been placed in the Society's Repository.

THE contrivance here described formed part of an apparatus for the prevention of accidents in raising men or minerals out of mines by means of a rope and bucket. The idea of centrifugal check-hooks appearing to be new and applicable in other machines for the purpose of stopping them when put into inordinate motion, or *running wild* as the phrase is, the Society directed that this particular contrivance should be inserted in their printed Transactions.

Fig. 1, Plate X, is a front view, and fig. 2 is a side view of the apparatus; $a a$ a bar fixed on the end of the axis d , fig.

2; *b b* two hooks swinging freely on the ends of the bar *c*, a short bar projecting from the frame of the machine for the hooks to catch hold of. When the bar *a a* revolves moderately, the hooks *b b* hang down by their own gravity and keep clear of the bar *c*, but when it revolves too quick the centrifugal force causes them to diverge, as shown by dotted lines, and one of them catches hold of the check-bar *c*, and stops the revolution of the axis entirely.

N° IV.

ARM-CHEST.



The LARGE SILVER MEDAL was this Session presented to R. S. WILKINSON, Esq. Capt. R. M. Chatham, for AN ARM CHEST FOR THE USE OF MARINES, a Model of which has been placed in the Society's Repository.

THE arm-chests on board ships of war appropriated to the marines are mere boxes in which the arms and accoutrements are deposited indiscriminately, so that it is not possible for the commanding-officer duly to inspect them or to render the men individually responsible for their condition.

Besides these serious inconveniencies it perpetually happens when a sudden alarm is given (especially at night) that the men rush to the arm-chest, take the musquets out as quick as possible, and in doing so run the imminent hazard of wounding each other, and of injuring the arms in the confusion. This was experienced by Capt. Wilkinson in an action with